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GONORRHOEA IN THE MANCHESTER REGION, 1951–1961*

BY

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Gonorrhoea infections treated in the venereal diseases clinics of England and Wales increased from 18,064 in 1951 to 37,026† in 1961. A study of certain epidemiological factors associated with the increased incidence of gonorrhoea between 1951 and 1961 in the clinics of the City of Manchester (Laird, 1962) showed that:

(*a*) The increase in incidence commenced in 1955 and was relatively greater in those aged under 25 years.

(*b*) Infections in males born in the U.K. had *not* increased since 1955 and the total for U.K. males in 1961 was only 70 per cent. of the 1951 total.

(*c*) Infections in U.K. male teenagers had increased since 1955 but the numbers were still small and *not* rising (59 in 1959 and 39 in 1961).

(*d*) Except for teenagers, the increase in male infections since 1955 had been confined to immigrants, amongst whom West Indians predominated.

(*e*) Repeated infection in certain individuals was a significant factor in the increase in males and, here again, immigrants, especially West Indians, made the major contribution.

(*f*) In the *female*, gonorrhoea infections increased in *all* age groups between 1955 and 1961. The increase was small (18·6 per cent.) in those aged 25 years and over, and moderate (73·7 per cent.) in those aged 20–24 years; but teenage infections increased from 44 in 1955 to 126 in 1961 (186 per cent.). As the total numbers were still greater in 1961 than in 1959, this rising trend in females shows no sign of abating.

(*g*) Some part of the increase in females since 1951 and 1955 may have been due to better case-finding and improved diagnosis; on the other hand, the increase may have been greater than the figures indicate because the use of "epidemiological treatment" leads to some cases of gonorrhoea being placed in another diagnostic category.

(*h*) The male consorts of half the total of teenage girls with gonorrhoea were known to be immigrants.

Clinics included in Present Study

As gonorrhoea infections occur predominantly amongst promiscuous persons in the cities and larger towns, a similar study has been made of the experiences of the sixteen V.D. clinics outside the City of Manchester, which serve the peripheral parts of the Manchester Regional Hospital Board Area.

The Manchester Regional Hospital Area covers parts of the four Administrative Counties of Lancashire, Cheshire, Westmorland, and Derbyshire, and includes thirteen County Boroughs. It contains approximately 2,700 square miles, extending from Barrow-in-Furness and Windermere in the north to Crewe and Nantwich in the south, a distance of about 134 miles by road, and is not more than about 30 miles wide at any point. The estimated home population of the Area on June 30, 1960, was 4,416,460; in terms of population it is the second largest hospital area in the country, being exceeded only by the Birmingham Regional Hospital Area (4,605,000). More than half the population live within a radius of 12 miles from the centre of Manchester, and this part of the Area is one of the most densely populated parts of Europe. North of Preston and south of the Manchester conurbation, the Area is predominantly rural in character, with concentrations of population on the coast round Blackpool, in

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† Estimated total from the quarterly figures for 1961.

the vicinity of Lancaster, and at Barrow-in-Furness. Although the total population of the designated Area is about 4,416,460, the Area hospitals serve a population greater than this by many thousands, particularly near Oldham, Burnley, Lancaster, and Barrow. For the people living in certain parts of the North and West Ridings of Yorkshire (Leeds Region) and in Cumberland (Newcastle Region) these Lancashire hospitals are nearer and more accessible than hospitals in Yorkshire or Cumberland.

TABLE I

TOWNS WITH V.D. CLINICS SHOWING THEIR ESTIMATED POPULATIONS, WHICH TOTAL 1,368,739

Town	Population	Town	Population
Ashton-under-Lyne	50,165	Kendal ..	18,595
Barrow-in-Furness	64,824	Lancaster ..	48,887
Blackburn	106,114*	Macclesfield ..	37,578
Blackpool	152,133*	Oldham ..	115,426*
Bolton	160,887*	Preston ..	113,208*
Burnley	80,588	Rochdale ..	85,785
Bury	59,984	Stockport ..	142,469*
Crewe	53,394	Wigan	78,702

* "Larger" towns, over 100,000 inhabitants.

The towns with V.D. clinics are listed in Table I; the estimated population of the towns is also given, but the clinics also serve the populations of the surrounding areas. Ten clinics are situated in towns with a population of less than 100,000, and the remainder in towns with from 106,000 to 160,000 inhabitants (Blackburn, Blackpool, Bolton, Oldham, Preston, Stockport).

Incidence of Gonorrhoea

The actual numbers of gonorrhoea infections diagnosed in the sixteen V.D. clinics during the years 1951, 1955, 1959, and 1961 are shown in Table II, classified by sex and age.

Table III (opposite) contains the same data but, for easier comparison of the trend, the totals for 1951, 1959, and 1961 are given as proportions of the 1955 totals which have been taken as unity.

It will be seen that the 1961 totals at Barrow and Bury, both "small" clinics, are less than those in 1955, and that at Ashton-under-Lyne, Kendal, Macclesfield, and Wigan the numbers are too small to reveal any trend. At Blackpool, a "larger" clinic, the 1961 total for *males* is less than in 1955 and 1959.

In ten clinics, however, there has been more than

TABLE II

GONORRHOEA INFECTIONS DIAGNOSED IN THE SIXTEEN V.D. CLINICS DURING 1951, 1955, 1959, AND 1961, BY AGE GROUP

Year		1951						1955						1959						1961					
Age Group (yrs)		<20		20–24		25+		<20		20–24		25+		<20		20–24		25+		<20		20–24		25+	
Sex		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Clinic ..	Ashton-under-Lyne	0	0	1	1	4	3	0	0	4	1	5	0	0	0	4	2	5	1	1	0	6	1	10	3
	Barrow-in-Furness	2	0	7	3	12	1	4	1	9	2	14	4	1	2	8	2	7	0	6	1	7	0	6	1
	Blackburn	0	1	13	4	34	10	1	2	5	4	16	4	1	0	9	3	28	8	1	5	7	6	70	12
	Blackpool	4	3	22	2	48	4	5	5	26	6	66	7	7	8	29	19	77	17	8	7	21	7	55	8
	Bolton	1	0	15	3	82	22	1	5	11	4	68	23	4	3	22	4	72	19	8	10	47	20	82	15
	Burnley	0	0	4	2	16	8	3	1	2	2	11	3	1	1	8	1	22	5	2	2	5	11	50	16
	Bury	0	0	2	1	21	3	2	0	7	3	15	0	2	5	10	4	20	8	1	1	3	2	7	4
	Crewe	0	2	3	2	9	2	1	2	4	2	7	1	1	1	2	4	8	2	1	1	10	4	13	0
	Kendal	0	0	1	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0
	Lancaster	2	2	2	2	16	3	0	2	4	0	5	3	0	2	2	3	11	3	1	1	4	1	15	6
	Macclesfield ..	0	0	2	0	11	6	0	0	0	2	2	0	0	0	1	0	2	0	0	0	2	0	1	0
	Oldham	0	4	16	4	33	9	3	1	6	4	18	6	2	7	25	7	30	9	4	9	14	10	40	7
	Preston	3	2	12	3	30	3	3	3	19	3	61	9	2	4	33	10	93	21	5	18	67	25	105	9
	Rochdale	0	4	10	5	43	8	0	1	3	0	22	3	0	3	9	4	18	5	1	1	6	2	16	6
	Stockport	3	1	7	2	30	9	0	1	9	0	32	8	1	2	14	8	42	10	3	2	20	7	29	1
	Wigan	0	0	4	4	21	5	1	0	4	2	11	3	0	1	7	3	13	2	1	2	5	1	14	6
	Totals	15	19	121	38	415	97	24	24	113	35	353	74	22	39	183	74	448	110	44	60	224	97	515	94

TABLE III

GONORRHOEA INFECTIONS DIAGNOSED IN THE SIXTEEN V.D. CLINICS DURING 1951, 1959, AND 1961, AS PROPORTION OF 1955 FIGURES (=1), BY AGE GROUP

Year		1951						1959						1961					
Age Group (yrs)		<20		20–24		25+		<20		20–24		25+		<20		20–24		25+	
Sex		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Clinic	Ashton-under-Lyne	—	—	0·25	1·0	0·8	**3·0**	—	—	1·0	2·0	1·25	**1·0**	**1·0**	—	1·5	1·0	2·0	**3·0**
	Barrow-in-Furness	0·5	—	0·8	1·5	0·85	0·25	0·25	2·0	0·9	1·0	0·5	—	1·5	1·0	0·77	—	0·43	0·25
	Blackburn	—	0·5	2·6	1·0	2·12	2·5	1·0	—	1·8	0·75	1·75	2·0	1·0	2·5	1·4	1·5	4·4	3·0
	Blackpool	0·8	0·6	0·85	0·33	0·73	0·56	1·4	1·6	1·1	3·16	1·16	2·42	1·6	1·4	0·8	1·16	0·8	1·14
	Bolton	1·0	—	1·36	0·75	1·2	0·96	4·0	0·6	2·0	1·0	1·06	0·83	8·0	2·0	3·3	5·0	1·2	0·65
	Burnley	—	—	2·0	1·0	1·5	2·6	0·3	1·0	4·0	0·5	2·0	1·6	0·6	2·0	2·5	5·5	4·5	5·3
	Bury	—	—	0·28	0·33	1·4	**3·0**	1·0	**5·0**	1·42	1·33	1·33	**8·0**	0·5	**1·0**	0·42	0·66	0·6	**4·0**
	Crewe	—	1·0	0·75	1·0	1·28	2·0	1·0	0·5	0·5	2·0	1·14	2·0	1·0	0·5	2·5	2·0	1·84	—
	Kendal	—	—	**1·0**	—	**5·0**	**1·0**	—	—	—	—	—	—	**1·0**	—	—	—	**2·0**	—
	Lancaster	**2·0**	1·0	0·5	**2·0**	3·2	1·0	—	1·0	0·5	**3·0**	2·2	1·0	**1·0**	0·5	1·0	**1·0**	3·0	2·0
	Macclesfield	—	—	**2·0**	—	5·5	**6·0**	—	—	**1·0**	—	1·0	—	—	—	**2·0**	1·0	0·5	—
	Oldham	—	4·0	2·66	1·0	1·85	1·5	0·66	7·0	4·16	1·75	1·66	1·5	1·33	9·0	2·33	2·5	2·22	1·16
	Preston	1·0	0·66	0·63	1·0	0·5	0·33	0·66	1·33	1·74	3·33	1·5	2·33	1·66	6·0	3·5	8·33	1·72	1·0
	Rochdale	—	4·0	3·33	**5·0**	2·0	2·33	—	3·0	3·0	**4·0**	0·82	1·66	**1·0**	1·0	2·0	**2·0**	0·72	2·0
	Stockport	**3·0**	1·0	0·77	**2·0**	0·94	1·125	**1·0**	2·0	1·56	**8·0**	1·31	1·25	**3·0**	2·0	2·22	**7·0**	0·88	0·125
	Wigan	—	—	1·0	2·0	1·9	1·66	—	**1·0**	1·75	1·5	1·18	0·66	1·0	**2·0**	1·25	0·5	1·27	2·0

— = No cases. Numbers in bold type (e.g. **2·0**) = That number of cases compared with Nil in 1955.

a two-fold increase in one or more age groups, in one or both sexes, in 1959 and/or 1961 (Tables III and IV). In 1961 these increases in gonorrhoea have been more marked in the clinics at Blackburn, Bolton, Burnley, Oldham, and Preston. At Bolton, the increase has occurred in both males and females below the age of 25 years. At Burnley, there have been increases in both sexes in those aged 20 years and over. At Blackburn, the increases have occurred in both sexes aged 25 years and over and also in teenage girls. At Oldham, increases have occurred in males aged 20 years and over and in females below 25 years. The increases

TABLE IV

CLINICS SHOWING MORE THAN A TWO-FOLD INCREASE IN GONORRHOEA INFECTIONS IN 1959 AND/OR 1961 AS COMPARED WITH 1955

Age Group (yrs)	1959		1961	
	Males	Females	Males	Females
Under 20	Bolton .. .. 4·0	Oldham .. 7·0 Rochdale .. 3·0	Bolton .. .. 8·0	Blackburn .. 2·5 Oldham .. 9·0 Preston .. 6·0
20 to 24 inclusive	Burnley .. 4·0 Oldham .. 4·16 Rochdale .. 3·0	Blackpool .. 3·16 Preston .. 3·33	Bolton .. .. 3·3 Burnley .. 2·5 Crewe .. .. 2·5 Oldham .. 2·33 Preston .. 3·5 Stockport .. 2·22	Bolton .. .. 5·0 Burnley .. 5·5 Oldham .. 2·5 Preston .. 8·33
25 and Over	Lancaster .. 2·2	Blackpool .. 2·42 Preston .. 2·33	Blackburn .. 4·4 Burnley .. 4·5 Lancaster .. 3·0 Oldham .. 2·22	Blackburn .. 3·0 Burnley .. 5·3

(The numerals indicate the increase compared with 1955 (Table III)

at Preston have taken place in both sexes aged 20 to 24 and in teenage girls.

The totals for gonorrhoea infections in females for the sixteen clinics (Table V) show that the increased incidence since 1955 has occurred in those aged 19 to 24 years inclusive. Amongst teenagers, the numbers for those aged 17 and 18 are little changed, but in 1961 there were six patients aged 17 years, six aged 16 years, and one aged 14 years. The 1961 totals are still greater than those of 1959, suggesting that this rising trend of gonorrhoea in younger females has not yet been arrested.

TABLE V

TOTAL GONORRHOEA INFECTIONS OF VENEREAL ORIGIN DIAGNOSED IN FEMALES AT THE SIXTEEN CLINICS, BY AGE

Age (yrs)	1951		1955		1959		1961	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Under 14 ..	—	—	—	—	—	—	—	—
14	—	—	—	—	—	—	1	—
15	1	—	1	—	—	—	—	—
16	—	—	—	—	1	—	6	—
17	5	—	4	—	8	—	6	—
18	7	—	11	—	12	—	15	—
19	6	—	8	—	18	—	32	—
Total 14–19 ..	19	12	24	18	39	18	60	24
20–24	38	25	35	26	74	33	97	39
25 and Over ..	97	63	74	56	110	49	94	37
Totals	154	100	133	100	223	100	251	100

A very similar age-group pattern emerges amongst females diagnosed under the heading "Other conditions requiring treatment", and some of the increase (Table VI) in those aged 24 years and less may be due to the epidemiological treatment of girls in whom gonorrhoea is suspected but in whom positive bacteriological proof was not obtained at the initial pre-treatment examination.

Countries of Origin of Male Gonorrhoea Cases

These are shown for 1961 in Table VII; while all but six of the female patients with gonorrhoea were born in the U.K., only 77 per cent. of male cases were born here. Patients from the West Indies (9·6 per cent.), Asia (6·1 per cent.), various other countries (5·6 per cent.), and Eire (1·6 per cent.) accounted for the remaining 23 per cent. of the total gonorrhoea infections in men.

In each of four clinics—Blackburn, Crewe, Oldham, and Preston—patients born outside the U.K.

TABLE VI

"OTHER CONDITIONS REQUIRING TREATMENT" DIAGNOSED IN FEMALES AT THE SIXTEEN CLINICS, BY AGE

Age (yrs)	1951		1955		1959		1961	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent
Under 14 ..	—	—	—	—	—	—	—	—
14	—	—	1	—	1	—	1	—
15	2	—	1	—	—	—	2	—
16	1	—	1	—	7	—	8	—
17	2	—	2	—	5	—	12	—
18	5	—	15	—	16	—	25	—
19	6	—	13	—	13	—	21	—
Total 14–19	16	10·8	33	12·0	42	12·9	69	18·2
20–24 ..	36	24·3	63	22·7	85	26·2	103	27·2
25 and Over	96	64·9	181	65·3	198	60·9	207	54·6
Total ..	148	100	277	100	325	100	379	100

TABLE VII

COUNTRY OF ORIGIN OF MALE PATIENTS WITH GONORRHOEA IN 1961 IN SIXTEEN CLINICS

Clinic		Country of Origin				
		U.K.	W. Indies	Eire	Asia	Others
Ashton-under-Lyne ..		13	2	—	1	1
Barrow		11	—	—	1	7
Blackburn		62	2	—	9	5
Blackpool		74	—	7	—	3
Bolton		130	2	—	3	2
Burnley		50	—	—	6	1
Bury		10	—	—	1	—
Crewe		11	8	2	—	3
Kendal		3	—	—	—	—
Lancaster		20	—	—	—	—
Macclesfield		3	—	—	—	—
Oldham		35	7	1	12	3
Preston		96	52	—	11	18
Rochdale		19	—	—	4	—
Stockport		47	2	2	—	1
Wigan		20	—	—	—	—
Total ..	No. ..	604	75	12	48	44
	Per cent.	77·1	9·6	1·6	6·1	5·6

numbered more than ten (Table VIII). The total number of male gonorrhoea cases in these four clinics in 1961 was 193 greater than in 1955, and this prevented the 1961 total for the sixteen clinics from being less than the 1955 total. It seems probable that the presence of immigrants in the neighbourhood of these four clinics has been a significant factor in the increased incidence of gonorrhoea in these areas.

TABLE VIII
COUNTRY OF ORIGIN OF MALE PATIENTS WITH GONORRHOEA IN 1961 AND TOTAL INFECTIONS IN 1955, IN SIXTEEN CLINICS

Clinic	Males with Gonorrhoea		
	Total in 1955	1961	
		U.K.	Other
Ashton-under-Lyne ..	9	13	4
Barrow	27	11	8
Blackburn	22	62	16
Blackpool	97	74	10
Bolton	80	130	7
Burnley	16	50	7
Bury	24	10	1
Crewe	12	11	13
Kendal	—	3	—
Lancaster	9	20	—
Macclesfield	2	3	—
Oldham	27	35	23
Preston	83	96	81
Rochdale	25	19	4
Stockport	41	47	5
Wigan	16	20	—
Total	490	604	179

Immigrants started to appear in small numbers in the peripheral clinics of the Region about 1959, and this trend has since been intensified, particularly in 1961. Excluding the 179 immigrants from the male total of 783 in 1961 (Table VIII) this leaves 604 infections in men born in the U.K., which is 114 (23 per cent.) more than the 1955 total (490) and 49 less than the 1959 total (653), which included only a small number of immigrants.

It is interesting to note that the three clinics—Blackburn, Oldham, and Preston—with the largest number of non-U.K. male patients (Table VIII) are also the three clinics which in 1961 had the largest increases in infections in teenage females (Table III).

Gonorrhoea Trend and Population Size

The increase in gonorrhoea between 1955 and 1961 in relation to population size is shown in Table IX for males and Table X for females. Data from the six larger towns (over 100,000 inhabitants) have been grouped together in the upper section of each of these Tables; and the combined figures for the ten smaller towns (less than 100,000 inhabitants) in the lower section.

TABLE IX
PERECENTAGE INCREASE IN GONORRHOEA BETWEEN 1955 and 1961 in MALES, BY AGE GROUPS AND POPULATION OF TOWN

Population of Town	Age Group (yrs)	1955 (*a*)	1961 (*b*)	Increase (*b–a*)	Percentage Increase
Six over 100,000	14–19	13	29	16	123
	20–24	76	176	100	132
	25 and Over	261	381	120	46
	Total	350	586	236	67
Ten under 100,000	14–19	11	15	4	36
	20–24	37	48	11	30
	25 and Over	92	134	42	46
	Total	140	197	57	41

TABLE X
PERCENTAGE INCREASE IN GONORRHOEA BETWEEN 1955 AND 1961 IN FEMALES, BY AGE GROUPS AND POPULATION OF TOWN

Population of Town	Age Group (yrs)	1955 (*a*)	1961 (*b*)	Difference (*b–a*)	Percentage Difference
Six over 100,000	14–19	17	51	+34	+200
	20–24	21	75	+54	+257
	25 and Over	57	52	− 5	− 9
	Total	95	178	+83	+ 87
Ten under 100,000	14–19	7	9	+ 2	+ 29
	20–24	14	22	+ 8	+ 57
	25 and Over	17	42	+25	+147
	Total	38	73	+35	+ 92

The difference in the experience of similar age groups between the larger and smaller towns is striking. For both sexes, the increase in gonorrhoea has occurred in those under 25 years of age in the six larger towns, while in the smaller towns the largest increase has occurred in those aged 25 years and over.

The *percentage* increases for females (Table X) seem large, but this is due to the relatively few cases recorded in 1955. In 1961, the total of 178 females with gonorrhoea in the six larger towns (total population 790,237) represents 23 female cases per 100,000 inhabitants; the 73 female cases in the ten

smaller towns (total population 578,502) represent thirteen female cases per 100,000 inhabitants.

Discussion

Diagnosis

The criteria for the diagnosis of gonorrhoea in these sixteen clinics have remained essentially the same between 1951 and 1961. Of the five consultant venereologists responsible for the clinical work of these sixteen clinics, three had been in post before 1951 and one was appointed in 1951; in the fifth case, involving three clinics, there was a change of consultant in 1961, but this did not involve any significant change in policy or standards.

It seems clear that the recorded increase in total gonorrhoea infections for these sixteen V.D. clinics is real and not due to changes in diagnostic criteria, consultant personnel, or their policies. While re-infections may now be more faithfully noted in the official returns of the clinics than in 1951 and 1955, this factor is unlikely to be significant in males and will scarcely apply at all in the case of female infections.

Case-finding

A policy of finding female consorts has been pursued actively throughout the decade and has been reasonably successful as indicated by the following male/female ratios:

1951	..	3·6:1	1959	..	2·4:1
1955	..	3·7:1	1961	..	3·1:1

This ratio in 1959 and 1961 was better than in 1955 and 1951 and improved case-finding may be a factor in the increased numbers of females diagnosed in 1959 and 1961 as compared with 1955. As already shown (Laird, 1962), with more male infections diagnosed, an active case-finding policy should lead to more infected females being brought to diagnosis.

Females

Gonorrhoea infections in females increased by 89 per cent. from 133 in 1955 to 251 in 1961 (Table V). The increase was greatest in those aged 20 to 24 years (177 per cent.) and in teenagers (150 per cent.). This increase in teenagers, which was largely confined to girls aged 19 years, was greatest in the three clinics (Blackburn, Oldham, and Preston) which had the most male immigrants (Tables III and VIII). The 1961 total for female cases aged 24 years and under was still greater than that for 1959, suggesting that the upward trend still continues. This pattern, which has emerged from the data of the sixteen peripheral clinics as a whole, is seen (Table X) to be only the pattern existing in the larger towns with populations over 100,000 which, in this respect, is similar to that observed in the clinics in the City of Manchester (Laird, 1962). The ten clinics serving smaller towns have a different and distinctive pattern in which the major increase in incidence involves women aged 25 years and over, and in these areas there has been no teenage increase.

Males

The pattern which emerges from the data of the sixteen peripheral clinics as a whole is rather similar to that for female cases. There has been an increase (60 per cent.) from 490 in 1955 to 785 in 1961. This increase was more marked in the six clinics situated in the larger towns and occurred predominantly in teenagers and young adults aged 20 to 24 years. In the ten smaller towns the increase was smaller and was more evenly distributed over the three age groups.

Male immigrants started to appear in certain of these sixteen clinics about 1959, but only in significant numbers in 1961 (Table VII), in which year 179 immigrants and 604 men born in the U.K. (Table VIII) were treated for gonorrhoea. Immigrants were more numerous in four clinics (Blackburn, Crewe, Oldham, and Preston), in which male infections increased by 193 between 1955 and 1961. If there had been no increase in 1961 in these four clinics, the 1961 total for the whole group of sixteen clinics would have been smaller than that in 1955. It is difficult to escape the conclusion that the presence of immigrants in the neighbourhood of certain clinics has been a significant factor, both direct and indirect, in the increased incidence of gonorrhoea in these areas and thus in the Region as a whole. It is probably significant, too, that three clinics (Blackburn, Oldham, and Preston) with the largest numbers of non-U.K. male patients also showed the largest increases in infections in teenage females (Table III). It has been found (Laird, 1962) that, in the clinics of the *City* of Manchester, the male consorts of about half the infected teenage girls were immigrants.

Population Size

The distinctive pattern of increases in different age groups which is seen in the larger and smaller towns is of interest. The larger towns share the pattern of the major cities, in which the increase in gonorrhoea is relatively greater and has occurred mainly in persons aged under 25 years. It seems likely that the

"reservoir" of gonococcal infection, until recently a feature of the cities and major towns alone, has become disseminated increasingly to urban communities of 100,000 to 200,000 inhabitants. Should this trend develop, and particularly if it is associated with the establishment of immigrant groups in the smaller towns, the increase of gonorrhoea may well become not only larger but more widespread.

Summary and Conclusions

The results of a study of the age and nationality of gonorrhoea patients attending the sixteen peripheral clinics of the Manchester Regional Hospital Board Area, in the years 1951, 1955, 1959, and 1961, are reported.

In males, the number of gonorrhoea infections in *all* age groups was 60 per cent. higher in 1961 than in 1955. This increase was greater in the larger towns (population 100,000 to 200,000) and chiefly affected those aged under 25 years. In smaller towns (less than 100,000 inhabitants) the increase was smaller and was more evenly distributed over the different age groups; in two smaller towns the 1961 totals were less than those for 1955.

Male immigrants started to appear in some of the sixteen clinics about 1959, but their numbers did not become significant until 1961, when only 77 per cent. of male infections occurred in men born in the U.K. West Indians and Asians (chiefly Pakistanis) were the two largest immigrant groups involved.

The four clinics with the largest numbers of immigrants showed increases in male cases of gonorrhoea in 1961. If these four clinics had not experienced these increases, the 1961 total for the sixteen clinics as a whole would have been less than the total in 1955. Three of these four clinics also showed the largest increases in infections in teenage females in 1961. The presence of immigrants in a locality thus seems to lead, both directly and indirectly, to an increased incidence of gonorrhoea in *both* sexes.

In females, gonorrhoea infections increased by 89 per cent. between 1955 and 1961; the increase was greatest in those aged 20–24 years (177 per cent.) and in teenagers (150 per cent.). The increase in teenagers was largely confined to girls aged 19 years and was most marked in the clinics which had the most male immigrants. This pattern was seen only in the six larger towns (population 100,000 to 200,000). In the ten clinics serving smaller towns (less than 100,000 inhabitants) the major increase in incidence involved women aged 25 years and over, and there was no increase in teenagers.

This difference in pattern between the larger and smaller towns is striking; the pattern in towns with 100,000 to 200,000 inhabitants resembles that found in the City of Manchester. It seems that the "reservoir" of gonococcal infection, until recently a feature of cities and major towns alone, has become increasingly disseminated to towns of 100,000 to 200,000 inhabitants. Should this trend develop, and particularly if it is associated with the establishment of immigrant groups outside the major conurbations, the incidence of gonorrhoea may well not only increase but become more widespread.

I am grateful to my consultant colleagues in the Region, Drs. Dawson, Lyall, Mackay, Read, and Silver, for supplying me with detailed data from their clinics.

REFERENCE

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La blennorragie aux environs de Manchester, 1951–61

RÉSUMÉ

L'auteur a étudié l'âge et le pays d'origine de tous les malades atteints de blennorragie qui se présentèrent aux 16 cliniques vénériennes des environs de Manchester en 1951, 1955, 1959, et 1961.

Chez les hommes de chaque génération, le nombre des infections gonococciques fut de 60% plus élevé en 1961 qu'en 1955. Cette augmentation fut plus importante dans les six grandes villes (de 100.000 à 200.000 habitants), surtout chez les jeunes gens de moins de 25 ans. Dans les dix petites villes (de moins de 100.000 habitants), l'augmentation fut plus faible et ses différences pour chaque génération furent moins marquées; dans deux des petites villes le taux fut plus bas en 1961 qu'en 1951.

Les immigrants mâles se présentèrent à certaines cliniques dès 1959, mais ce n'est qu'à partir de 1961 que leur nombre prend de l'importance quand 77% seulement des mâles atteintes de blennorragie sont nés au Royaume-Uni. La plupart de ces immigrants viennent des Indes Occidentales et de l'Asie, surtout du Pakistan.

Les quatre cliniques où se trouva le plus grand nombre d'immigrants ont rendu compte des plus grandes augmentations de mâles atteints de blennorragie en 1961. Ces quatre cliniques à part, le taux pour la région entière aurait été inférieur en 1961 à celui de 1955.

Trois de ces quatre cliniques ont rendu compte aussi des plus grandes augmentations de jeunes femmes de moins de 20 ans. La présence des immigrants semble donc augmenter le nombre de malades de chaque sexe.

Chez les femmes le nombre des infections augmenta de 89% entre 1955 et 1961. Cette augmentation fut plus grande parmi celles de 20 à 24 ans (177%) et celles de moins de 20 ans (150%). Chez ces dernières c'est surtout les jeunes femmes de 19 ans qui furent atteintes, et elles se présentèrent surtout aux cliniques où les immigrants furent plus nombreux.

Cette grande augmentation chez les jeunes femmes dans les six grandes villes semble suivre l'exemple de la ville même de Manchester. Dans les dix petites villes la plus grande augmentation chez les femma se trouva

parmi celles de 25 ans et au-dessus et il n'y avait aucune augmentation chez celles de moins de 20 ans.

Cette différence entre les grandes et les petites villes est importante, parce qu'elle indique que le réservoir d'infection gonococcique, qui était limité auparavant aux grandes villes et aux grands ports, commence à se répandre dans les villes moyennes (de 100.000 à 200.000 habitants). Si cette tendance continue et surtout si elle accompagne l'établissement de groupes d'immigrants en dehors des grandes villes, il est à craindre que la blennorragie devienne non seulement plus fréquente mais aussi plus répandue dans l'ensemble de la population.